



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,862	11/13/2003	Kiyoji Aoshima	2003_1633A	6306

513 7590 03/07/2006

WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

WOLFE, DEBRA M

ART UNIT	PAPER NUMBER
----------	--------------

3725

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/705,862	Applicant(s) AOSHIMA ET AL.	
	Examiner Debra Wolfe	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 9 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 10-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

Claim Objections

Claim 14 is objected to because of the following informalities:

1. Line 4 appears to be missing the term “to” between respect and an

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 9, 2 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallis (U.S. Patent # 5,197,718). Wallis discloses self-contained gas springs that are interchangeable with coil springs in a press or die system [See col. 2, lines 43-47] wherein each cushion pin (gas spring 10) having a pillar member (rod 15) and an elastic member (spring 33) that is arranged coaxially with respect to the pillar member (rod 15) and produces a pushing force in an axial direction of the pillar member. Wallis also discloses a die cushion (B) comprising a plurality of cushion pins (gas springs 10). It is inherently capable that the axially transmitted pressures of the individual cushion pins (gas spring 10) of Wallis are equalized with the use of the plurality of cushion pins (gas spring 10) [See FIG 6].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Wallis (U.S. Patent # 5,197,718). Applicant admits that cushion pin pressure-equalizing devices are known and used in the art. Applicant refers to figure 15 that shows an example of a cushion pin pressure-equalizing device within a press machine. Applicant states on page 1 line 24 – page 2 line 16:

“In Fig. 15, an upper press die 51 is fixed to a slide 52 of the press machine, and a lower press die 53 is fixed to a bolster plate 54. The bolster plate 54 is supported by a carrier (corresponding to a press carrier 55 of Patent Document 1). A blank holder (corresponding to a cushion pad of Patent Document 1) 56 is disposed within the lower press die 53. The blank holder 56 is supported by the top ends of plural cushion pins 57 and the bottom ends of the individual cushion pins 57 are supported by a cushion plate 69 of a die cushion 59 through hydraulic cylinders 58. The die cushion 59 is provided with a cushion cylinder 61 for supporting the cushion plate 69, and a prescribed air pressure which is determined by an air regulator 63 is supplied from an air pressure source 62 to the cushion cylinder 61 via an air tank 64. The individual hydraulic cylinders 58 are connected to an oil feeding means 67 through a common pipe 65 and a flexible tube 66. The oil feeding means 67 has a function to assure an amount of oil being supplied to the individual hydraulic cylinders 58. According



to the above configuration, a work W is placed on the blank holder 56, the slide 52 is lowered, its lowering force is transmitted to the die cushion 59 through the die cushion pins 57, and the die cushion 59 generates a cushion pressure, namely a blank holding force. At this time, an oil pressure generated within each of the hydraulic cylinders 58 disposed at the bottom end of the cushion pins 57 becomes constant because the individual hydraulic cylinders 58 are mutually communicated. Thus, unbalanced cushion pressures of the individual cushion pins 57 are smoothed (namely, equalized) to improve blank holding accuracy.”

With regards to claim 4, Applicant’s admitted prior art discloses the method of performing press work by equalizing axially transmitted pressures of plural cushion pins (57) disposed on a die cushion (59) through a die cushion pad (69) by smoothing variations in positions of the ends of the cushion pins (57) by the use of oil pressure generated within each of the hydraulic cylinders (58). Applicant’s admitted prior art discloses the method substantially as claimed except for wherein the equalizing axially transmitted pressures is accomplished by smoothing variations in positions of the ends of the cushion pins by contraction of an elastic member provided for each of the cushion pins. However, Wallis discloses the use of gas springs (10) having an elastic member (spring 33) for the purpose of eliminating the deleterious effects of oil or other contaminants from the exterior of the press or die. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the hydraulic cylinders (58) and cushion pins (57) of Applicant’s admitted prior art with the gas



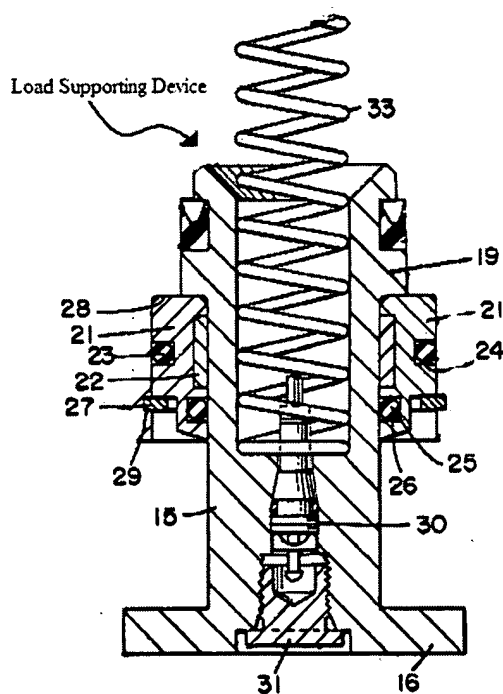
springs of Wallis in order to obviate the deleterious effects of oil or other contaminants from the exterior of the press or die.

With regards to claim 13, Applicant's admitted prior art discloses a load supporting device (hydraulic cylinders 58) which is interposed between a cushion pin (57) and a die cushion pad (69) but does not disclose a load supporting device comprising of an elastic member. However, Wallis discloses a load supporting device [See FIG below] comprising of an elastic member (spring 33) that is provided coaxially with respect to the cushion pin (cylinder 11) and produces a pushing force in an axial direction of the cushion pin (cylinder 11) wherein a load applied to the cushion pin is supported through the elastic member (spring 33) for the purpose of eliminating the deleterious effects of oil or other contaminants from the exterior of the press or die. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the load supporting device of Applicant's admitted prior art with the load supporting device of Wallis in order to provide a clean and more efficient environment around the press.

With regards to claims 14 and 15, Applicant's admitted prior art discloses a press machine having a die cushion (59), which receives a load supplied through a plurality of cushion pins (57) by a die cushion pad (69), comprising a plurality of load supporting devices (hydraulic cylinders 58) disposed on the die cushion pad (69) and in abutment with the cushion pins (57) [See FIG 15 of Applicant's drawings]. Applicant's admitted prior art fails to disclose a load supporting device having an elastic member and wherein the elastic member of each of the load supporting devices produces a pushing force in an axial direction of the associated cushion pin. However, Wallis discloses a load supporting device [See FIG below] having an elastic member



(spring 33) that is provided coaxially with respect to an associated cushion pin (cylinder 11) and produces a pushing force in an axial direction of the associated cushion pin (cylinder 11) for the purpose of eliminating the deleterious effects of oil or other contaminants from the exterior of the press or die. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the load supporting devices of Applicant's admitted prior art with the load supporting devices of Wallis in order to provide a clean and more efficient environment around the press.



Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter.

1. It is the opinion of the examiner that the art of record (considered as a whole) neither anticipates nor renders obvious a cushion pin having a pillar member comprising of "a bolt member attached to a first member; a sliding member disposed between a head of the bolt



member and an end face of the first member; and a second member attached to an opposite end of the sliding member relative to the first member, wherein the first member, the bolt member, the sliding member and the second member are coaxially aligned, and wherein the elastic member is disposed around said bolt member and in said sliding member" in combination with the rest of the claimed limitations set forth in the claim 10.

Further searching by the examiner yielded additional prior art as follows:

2. Wallis (U.S. Patent # 5,197,718) discloses a gas spring (10) having a pillar member (15) and an elastic member (spring 33) that is coaxially aligned with the pillar member (15). A cylindrical body (11) is provided wherein the pillar member (rod 15) extends upwardly into the cylindrical body (11).

3. However the above cited prior art fails to disclose a bolt member, a first member and a second member that are all coaxially aligned. Therefore, it is concluded that claim 10 of the present invention is allowable subject matter over the prior art.

4. Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. U.S. Patent # 5,386,975 to Wallis
2. U.S. Patent # 6,520,075 to Shinoda et al
3. U.S. Patent # 5,960,665 to Schoellhammer
4. U.S. Patent # 1,827,440 to Rode
5. U.S. Patent # 5,687,598 to Kirii et al



Application/Control Number: 10/705,862
Art Unit: 3725

Page 8

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Wolfe whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 6am - 3:30pm with alternating Friday 6am - 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached at (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Debra Wolfe
Examiner
Art Unit 3725

A handwritten signature in black ink, appearing to read "Derris H. Banks", is written over a horizontal line.

DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700